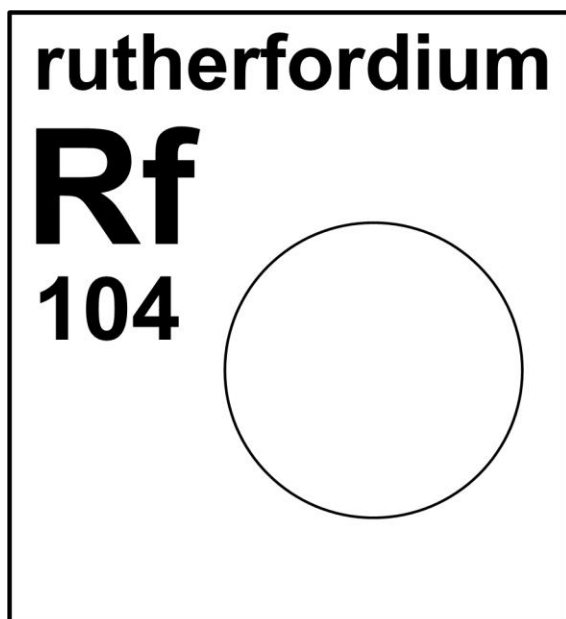





rutherfordium



Stable isotope	Atomic mass	Mole fraction
(none)		

Half-life of radioactive isotope

Less than 1 second	
Between 1 second and 1 hour	
Greater than 1 hour	

^{253}Rf	^{254}Rf	^{255}Rf	^{256}Rf	^{257}Rf	^{258}Rf	^{259}Rf	^{260}Rf	^{261}Rf	^{262}Rf
^{263}Rf	^{264}Rf	^{265}Rf	^{266}Rf	^{267}Rf	^{268}Rf				

Important applications of stable and/or radioactive isotopes

The discovery of element 104 was demonstrated conclusively in 1969. The nuclide ^{257}Rf was produced at UC Berkeley by high energy reaction of ^{249}Cf with ^{12}C ions, with emission of neutrons. Other isotopes have been produced by various other reactions. Consensus on the name of this element was announced by IUPAC in 1997. Rf does not occur naturally in the Earth's crust.

Applications: It is of interest in particle physics research, but has no commercial applications. ^{261}Rf was one of the decay products used to confirm synthesis of Element 112 in a particle accelerator experiment.

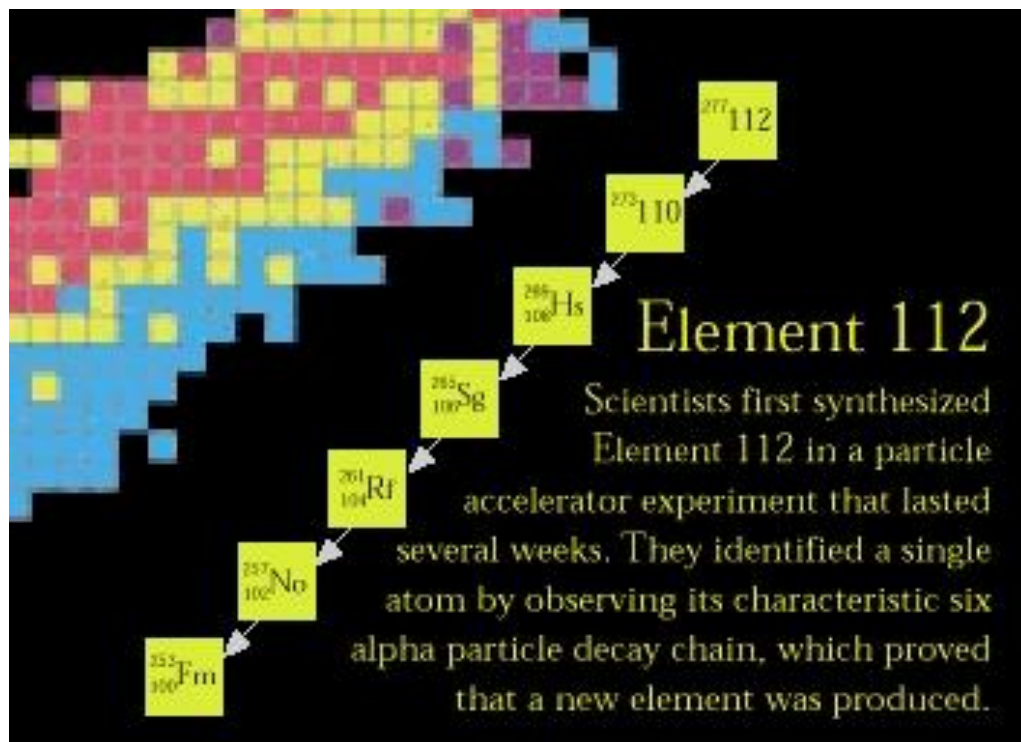


Figure 1: A series of heavy isotopes produced by successive alpha decays, beginning with Element 112 and including ^{261}Rf , provided evidence for successful synthesis of Element 112.



Figure 2: Ernest Rutherford had element 104, rutherfordium, named after him in his honor.